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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,166	10/27/2003	Lon O. Hocker III	ONSET-018XX	3061
207	7590	02/23/2006	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP TEN POST OFFICE SQUARE BOSTON, MA 02109			FRANKLIN, RICHARD B	
			ART UNIT	PAPER NUMBER
			2181	
DATE MAILED: 02/23/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,166

Applicant(s)

HOCKER ET AL.

Examiner

Richard Franklin

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/04, 2/14/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 29 have been examined.

Claim Rejections - 35 USC § 112 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 14 adds the limitation of “wherein a data signal for data transfers from the second system to the first system is encoded using a $\frac{1}{4}$, $\frac{3}{4}$ with a nominal 4-microsecond bit cell and a data signal for data transfers from the first system to the second system is encoded using a $\frac{4}{14}$, $\frac{10}{14}$ with a nominal 14-microsecond bit cell.” The examiner has reviewed the specification, and finds the only explicit mention of “encoding” is with respect to “ $\frac{1}{3}$, $\frac{2}{3}$ encoding and Manchester encoding” on Page 15 Lines 22 and 23 of the specification. Applicant has failed to teach $\frac{1}{4}$, $\frac{3}{4}$ encoding, $\frac{4}{14}$, $\frac{10}{14}$ encoding, or nominal bit cells. Lacking any other insight from the Applicant, it is apparent that the subject matter in the claim is not enabled nor adequately described in the originally filed disclosure. Thus, the claim is rejected.

Claim Rejections - 35 USC § 112 2nd Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 – 5, 14, and 20 – 29 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "a level shifting circuit" in Page 19 Line 25. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the "level shifting circuit" of claim 3 or a new "level shifting circuit."

The Examiner has interpreted the limitation to refer to the "level shifting circuit" of claim 3.

As per claim 14, due to the rejection of claim 14 under 35 U.S.C 112 1st Paragraph as stated above, it is unclear how the Applicant intends the claim limitations to be interpreted. Thus, the claim is vague and indefinite.

Claim 14 recites the limitations "the first system" and "the second system" in Page 21 Lines 7 and 9 – 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 recites the limitation "the battery-powered device" in Page 22 Lines 10 – 11. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to refer to the "low-power device" as previously recited in the claim.

Claim 22 recites the limitation "the electrical levels" in Page 23 Line 6. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to recite "modifies electrical levels".

Claim 23 recites the limitation "the voltage levels" in Page 23 Line 10. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to recite "alters voltage levels".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 2, 6 – 10, 15, 19 – 25, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Fosler US Patent Application Publication No 2004/0225811 (hereinafter Fosler).

As per claim 1, Fosler teaches an apparatus for enabling communications between a computer (Figure 1 Item 106) and a battery-powered device (Figure 1 Item 108), each having an interface for sending and receiving respective data signals and for providing a respective power signal, the electrical operating ranges of the computer-provided and battery-powered device-provided power signals being dissimilar (Paragraph [0008]), the apparatus comprising: a microcomputer module comprising an interface for exchanging data signals with the computer and for receiving the power signal from the computer (Figure 3b Item 308), a microcomputer for controlling the exchange of data via the module interface (Figure 3d Item 320, Paragraph [0040]), and a memory element for storing microcomputer operating instructions and data processed thereby (Figure 3d Item 322, Figure 4 Item 406 and 408, Paragraphs [0039] and [0042]), the microcomputer operating in the electrical operating range of the computer and selectively reformatting data in accordance with the formatting requirements of the computer and the battery-powered device, respectively; and a bridging module in communication with the microcomputer of the microcomputer module and the battery-powered device and adapted to compensate for the dissimilar electrical operating ranges of data exchanged between the computer and the battery-powered device via the bridging module (Figure 3c), whereby data transmitted by the computer via the computer interface is received at the microcomputer via the module interface,

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selectively reformatted by the microcomputer (Paragraph [0040]), and transmitted to the battery-powered device via the bridging element, and whereby data transmitted by the battery-powered device is received at the microcomputer module via the bridging element, selectively reformatted by the microcomputer, transmitted to the computer by the module interface, and received by the computer via the computer interface (Paragraph [0040]).

As per claim 2, Fosler also teaches wherein the bridging module is operative to modify at least a portion of the exchanged data into a form compatible with the electrical operating range associated with the computer or battery-powered device receiving the exchanged data (Paragraph [0035]).

As per claims 6 – 9, and 24 – 25, Fosler teaches wherein a data link can be a wireless link, wireless infrared (IrDA), wireless radio frequency (RF), or a fiber-coupled optical communications link (Paragraph [0031]).

As per claim 10, Fosler also teaches wherein the computer interface is a universal serial bus (USB) interface and the module interface is a USB-compliant interface (Paragraph [0029]).

As per claim 15, Fosler also teaches wherein the data transmitted by the microcomputer to the battery-powered device via the bridging module is encoded using Manchester encoding (Paragraph [0005]).

As per claims 19 and 29, Fosler also teaches wherein the microcomputer module further comprises a power supply (Figure 3a, Paragraph [0034]).

As per claim 20, Fosler teaches a system for enabling communications between a port of a computer (Figure 1 Item 106) and a low-power device (Figure 1 Item 108), the computer and the low-power device having dissimilar electrical operating ranges (Paragraph [0008]), the system comprising: a module port compatible with the computer port and selectively coupleable therewith (Figure 3b Item 308); a microcomputer in communication with the module port and operative to exchange data with the computer via the module and computer ports (Figure 3d Item 320); a memory in communication with the microcomputer for enabling the selective storage of data by the microcomputer and for storing instructions executable by the microcomputer (Figure 3d Items 322 and 324); and a bridging module having a first end in communication with the microcomputer and a second end in communication with the low-power device, the bridging module for enabling the exchange of data between the microcomputer and the low-power device despite the dissimilar respective electrical operating ranges (Figure 3c).

As per claim 21, Fosler also teaches wherein the microcomputer is operable to selectively reformat data exchanged between the computer and the low-power device (Paragraph [0040]).

As per claim 22, Fosler also teaches wherein the bridging module selectively modifies electrical levels of the data exchanged thereby (Paragraph [0035]).

As per claim 23, Fosler also teaches wherein the bridging module alters voltage levels of data transmitted to the low-power device (Paragraph [0035]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16 – 18, and 26 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fosler US Patent Application Publication No 2004/0225811 (hereinafter Fosler).

As per claim 16 – 18 and 26 – 28, Fosler teaches all the elements of claims 1 and 20 (See rejections of claims 1 and 20 above).

Fosler does not teach wherein the bridging module, battery-powered device, and microcomputer module are disposed in a common enclosure; wherein the bridging

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module and the microcomputer module are disposed in an enclosure; or wherein a first portion of the bridging module is physically housed with the battery-powered device and a second portion of the bridging module is physically housed with the microcomputer module.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Fosler to include the elements of the invention in the same or different enclosures. Such a modification is considered to be within the level of ordinary skill in the art as set forth by the following legal precedents; See Making Integral - *In re Larson*, 340 F.2d 965, 967, 144 USPQ 347, 349 (CCPA 1965); *In re Wolfe*, 251 F.2d 854, 855, 116 USPQ 443, 444 (CCPA 1958) and See Making Separable – *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

6. Claims 3 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fosler US Patent Application Publication No 2004/0225811 (hereinafter Fosler) in view of Fujioka US Patent No 5,559,996 (hereinafter Fujioka).

As per claim 3, Fosler teaches a system to modify a portion of exchanged data into a form compatible with that of the receiving device (See rejection of claim 2 above).

Fosler does not teach a level shifting circuit to alter the amplitude of at least a portion of the exchanged data into a form compatible with the electrical operating range associated with the computer or battery-powered device receiving the exchanged data.

Fujioka teaches a level shifting circuit to alter the amplitude of at least a portion of the exchanged data into a form compatible with the electrical operating range associated with the computer or battery-powered device receiving the exchanged data (Fujioka; Figures 10 – 13 Item 52, Col 10 Line 64 – Col 11 Line 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Fosler to include the level shifting circuit because it allows for the voltage levels to be converted to the appropriate levels (Fujioka; Col 10 Line 66 – Col 11 Line 1).

As per claim 4, Fujioka also teaches a direct electrical connection from the batter-powered device to the microcomputer module (Fujioka; Figure 10 Item 503); and an electrical connection including the level shifting circuit to reduce the amplitude of the data conveyed from the microcomputer module to the battery-powered device (Fujioka; Col 10 Line 64 – Col 11 Line 1).

As per claim 5, Fosler and Fujioka obviously teach wherein the level shifting circuit is a voltage divider circuit because voltage divider circuits are well known in the art as a way to reduce a voltage by using appropriate resistors to divide the voltage between the two resistors.

7. Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fosler US Patent Application Publication No 2004/0225811 (hereinafter Fosler) in view of Barrenscheen et al. US Patent No. 6,292,862 (hereinafter Barrenscheen).

As per claim 11, Fosler teaches the elements of the invention as described per claim 1 (See rejection of claim 1 above).

Fosler does not teach wherein the microprocessor stores data in the memory prior to transmitting it to the computer or the battery-powered device.

Barrenscheen teaches storing data in the memory prior to transmitting it to the computer or the battery-powered device (Barrenscheen; Col 5 Lines 38 – 45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Fosler to include the data storing because it allows for connection of two bus systems that use different data transfer rates (Barrenscheen; Col 5 Lines 38 – 45).

As per claims 12 and 13, Fosler teaches the elements of the invention as described per claim 1 (See rejection of claim 1 above).

Fosler does not teach wherein the microcomputer transmits data to the computer and battery-powered device at different rates.

Barrenscheen teaches bus bridge that transmits data to different devices at different rates (Barrenscheen; Col 5 Lines 38 – 45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Fosler to include the

different data transfer rates because they allow data transfers to different bus types (Barrenscheen; Col 5 Lines 38 – 45).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fosler US Patent Application Publication No 2004/0225811 (hereinafter Fosler) in view of Barrenscheen et al. US Patent No. 6,292,862 (hereinafter Barrenscheen) further in view of Derbyshire et al. US Patent No. 6,545,599 (hereinafter Derbyshire).

As per claim 14, Fosler in view of Barrenscheen teaches the system as described per claim 13 (See rejection of claim 13 above).

Fosler in view of Barrenscheen does not teach the use of different encoding techniques for transmitting to different devices.

However, Derbyshire teaches the use of different encoding techniques for transmitting to different devices (Derbyshire; Col 14 Line 60 – Col 15 Line 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of the combination of Fosler and Barrenscheen to include the different encoding techniques because that allows for the reduction of the transmitted data rate and a power consumption decrease (Derbyshire; Col 15 Lines 2 – 8).

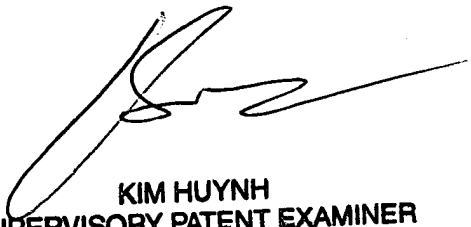
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Franklin
Patent Examiner
Art Unit 2181


KIM HUYNH
SUPERVISORY PATENT EXAMINER
2/16/06